TYPICAL PRODUCTS

Explosive Components
Hazard Classification 1.3 and 1.4

Weapons Release

CCU-45 Impulse Cartridge

Target Recovery

4W69 Parachute Release Cartridge

Ejection Seat

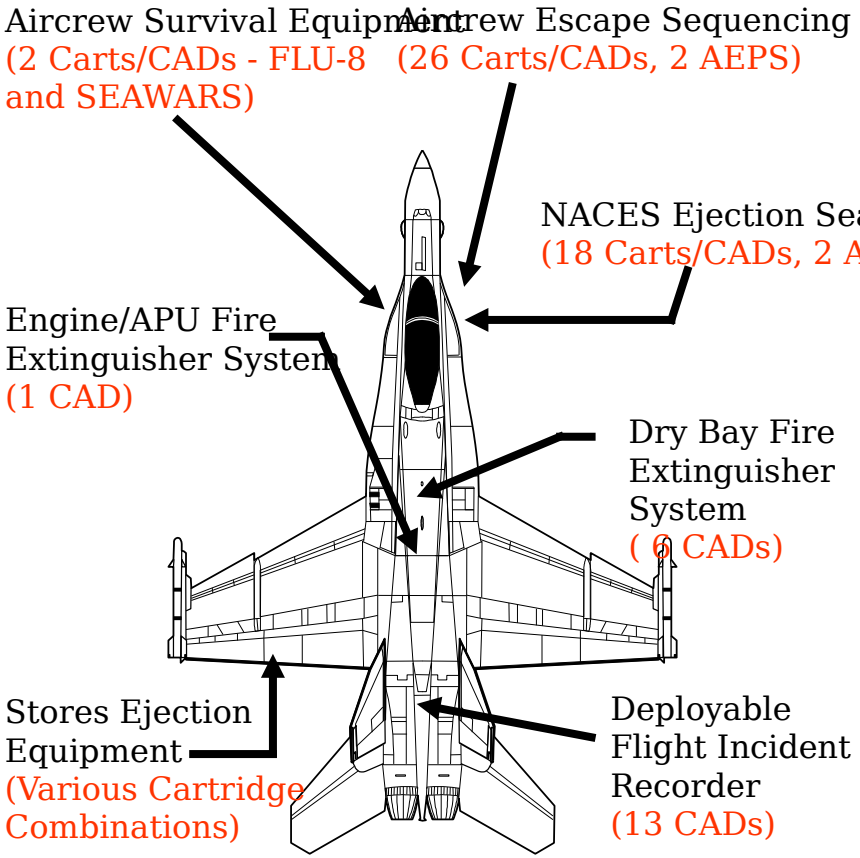
T-6A Under Seat Rocket Motor

USN/MC

- **245,000 Aircraft-Installed Components**
- **Over 130 Models/Configurations of Aircraft/Systems Supported**
- **Located on Over 100 Bases and Ships**
- **45,000 Annual Installations**
- **1,300,000 CADs Fired Annually for Fleet Training/OPs**

TYPICAL AIRCRAFT SYSTEM

- **Service-Life-Limited Product**
- **Installed CAD/PADs Changed Out on Scheduled Maintenance Intervals**
  - **Procured Just-in-time Based on Predicted Fleet Aircraft Populations and Predicted Maintenance Schedules by TMS**
  - **Change-outs Modeled to Determine Out-year Requirements by BUNO**
  - **Failure to Have CAD or PAD On Hand for Scheduled Maintenance Increases Fleet Costs and Ground-Time**
- **Weapons/Stores Release CADs Procured**

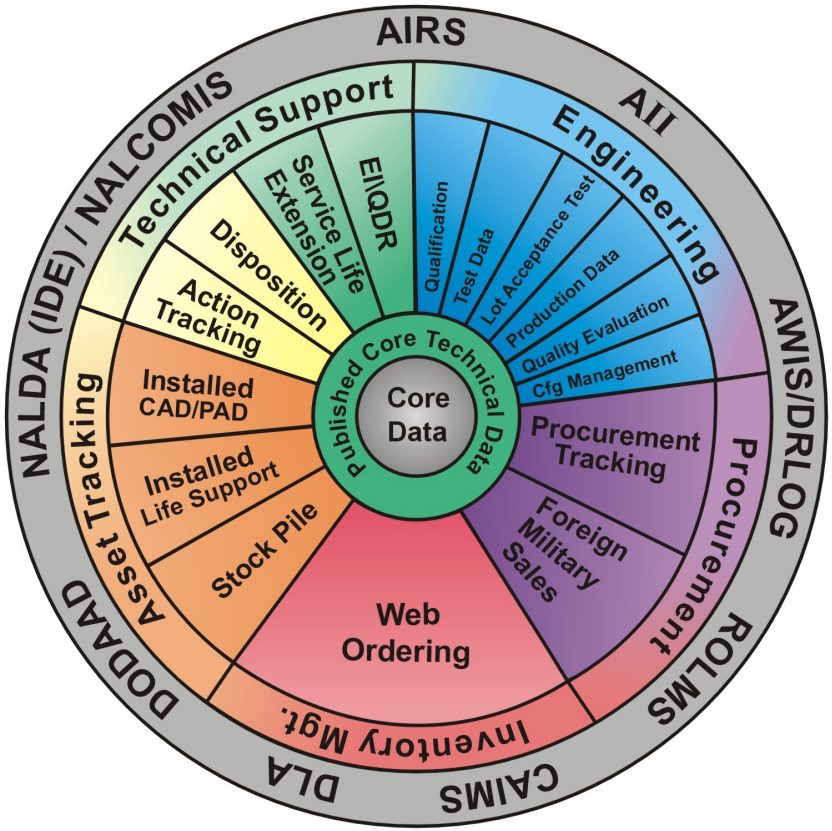


F/A-18E CAD/PAD Configuration

66 CAD/PADs Installed
Plus Weapons/Stores Release

VIRTUAL FLEET SUPPORT

WEB: 17 SUB-MODULES



- **Sample Data Products**
  - **Requirements Determination (MPS)**
  - **Automated Technical Manual**
  - **Service Life Extensions**
  - **Backorder / Shortage Analyses**
- **Sample Data Services**
  - **Asset/Equipment Tracking**
  - **Shortage Assessments**
  - **Automated NAR Assessments**
  - **Automated TD Assessments**
  - **Automated Service Life Updates**

Nine Modules and Two Related Processes Provide Direct Fleet Support at the Deck Plate

Eight Modules and the Two Processes are Egress/Emergency System Related, Inc. is ALSS

Cartridge Actuated Devices
Propellant Actuated Devices

CAD/PAD Program

Virtual Fleet Support

Lee R. Manis
CAD/PAD APML/FSTL
AIR-3.2.1A/
NSWCIHDIV 530A

PURPOSE

- **Not a Data Collection System, but Rather, *the Process by Which Sailors and Marines Order, Report, and Track the Product, as Well as Glean Key Technical and Safety Information and Training on the Tailored Fleet Support Processes***

CAD/PAD PROGRAM ORGANIZATIONAL ALIGNMENT

RADM T. L. Heely

PEO (W)
Strike Weapons and Unmanned Aviation

PMA (201)
Conventional Strike Weapons Program
CAD/PAD JPO

CAPT D. A. Dunaway

CAPT J. N. Giaquinto

NSWC Indian Head

OO-ALC Hill AFB

CAD/PAD Dept Code 50 NSWC IH, MD

USAF IPT 00-ALC/WMJ Hill AFB, UT

COL W. W.Saeger

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JOINT CAD/PAD PROGRAM

DESIGN PRINCIPLES

- **Automate Business Processes Between the Deckplate CAD/PAD Mechs, Ordnance Logistics and Supply, and the FST**
- **Move Users From Admin to Mission Tasks**
  (Nick Bertucci, CAD/PAD Dept. Head)
- **Input Data Once at the Source for Use by All**
- **Meet the Need of the Deckplate Users First**

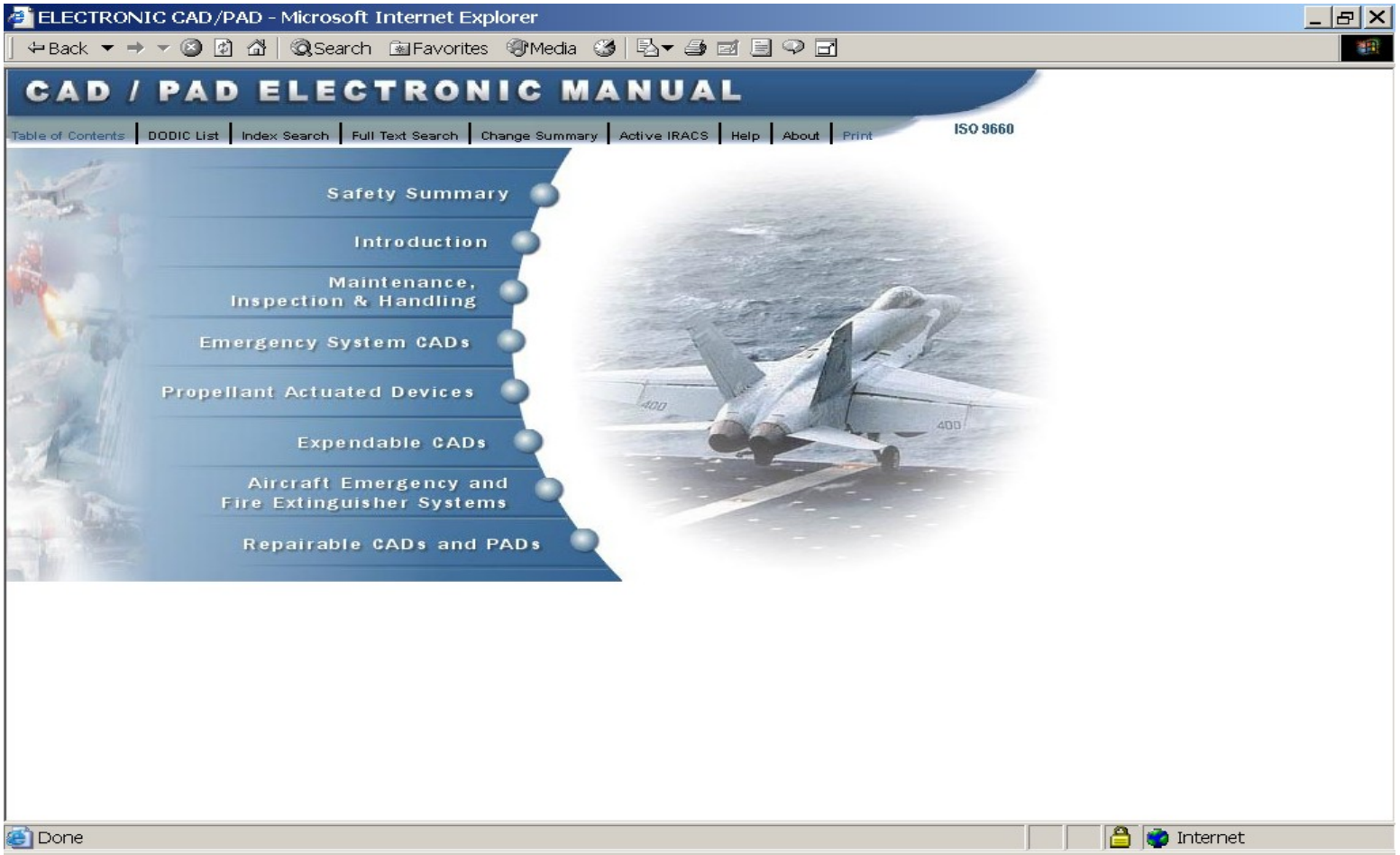
Data Systems Must do Work for the Maintainers, Not Workload Them

VIRTUAL FLEET SUPPORT

User Registration and Management

- **Each Activity Must Register a Unit Administrator (UA) with the VFS System**
- **UAs Manage Local Users, Approving Local Access**
- **All UAs/Users Must use Unique USERID and Password**
- **Activity and Module Assignment Determines Update Rights – Compartmentalizes Data Access and Update**
- **Deploying Web-Based Data Mining Software for Data Assessment and Analysis**

INTERACTIVE TECHNICAL MANUAL



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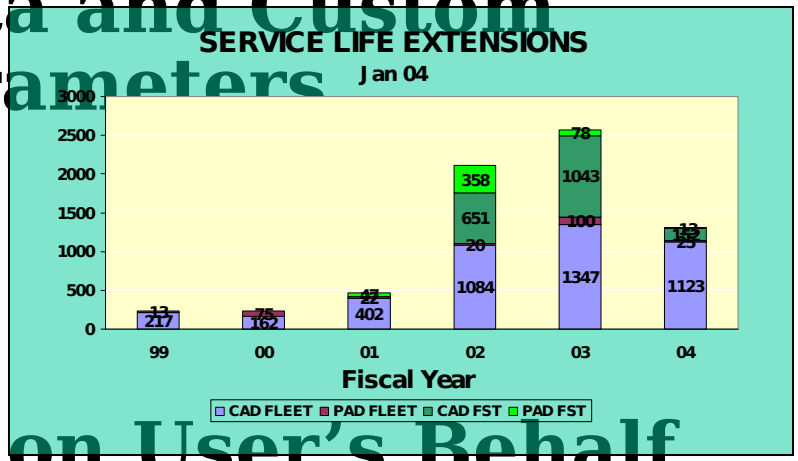
VIRTUAL FLEET SUPPORT

Virtual Service Life Extension

- **Provides On-line SLE Processing from VFS TRACE Data and Custom Extension Parameters**
- **Instant Responses**
- **Automatic Email of Action Taken**
- **VFS TRACE Updated on User's Behalf**



VIRTUAL FLEET SUPPORT

Installed CAD/PAD Tracking

- **Process for Tracking Installed Explosives**
- **Interfaces With Existing Maintenance Data Collection System**
- **Provides for Aircraft CAD/PAD Configuration Tracking**
- **Provides Usage Data for Procurement and Maintenance Budget Planning**
- **Provides Data for Inventory Assessments and to Support Service Life Testing**

VIRTUAL FLEET SUPPORT

Web Ordering

- **Web-Based Ordering System for Installed Explosive Parts**
- **Uses VFS TRACE (Maintenance) Data to Automatically Create Supply Requisitions**
- **Supply Process Bundles to Support Scheduled Maintenance Requirements**
- **Real-Time Delivery (14-Day Lead Time CONUS, Averaging < 9)**

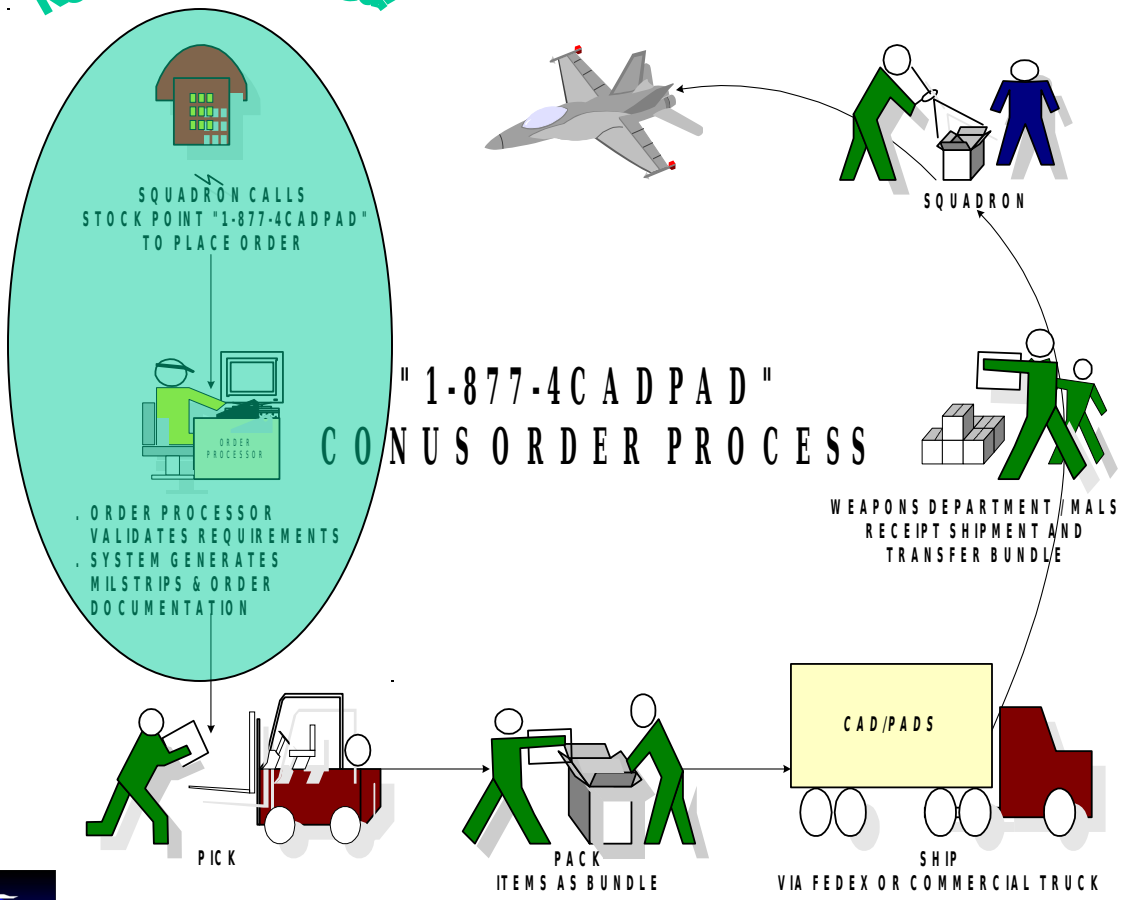
Note: 14 Days From Operational Impact

- **Automatically Emails Order Receipts and Confirmation (Shipping) Reports to Orderer and Chain-Of-Command**

VIRTUAL FLEET SUPPORT

Ordering Process

Now Web Enabled!



2001 David Packard Award Winner

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JOINT CAD/PAD PROGRAM

VIRTUAL FLEET SUPPORT

Requirements Determination Model

- **Navy Material Planning Study (MPS)**
- **Automated Process for Determining CAD/PAD Procurement and Maintenance Requirements**
- **Uses the Electronic Tech Manual, VFS Trace, and Other Data to Establish Both Quantity and Cost for Budgeting and Execution**
- **Adjusts for Procurement/Maintenance Lead-Time**

VIRTUAL FLEET SUPPORT

Engineering Investigations (EIs)

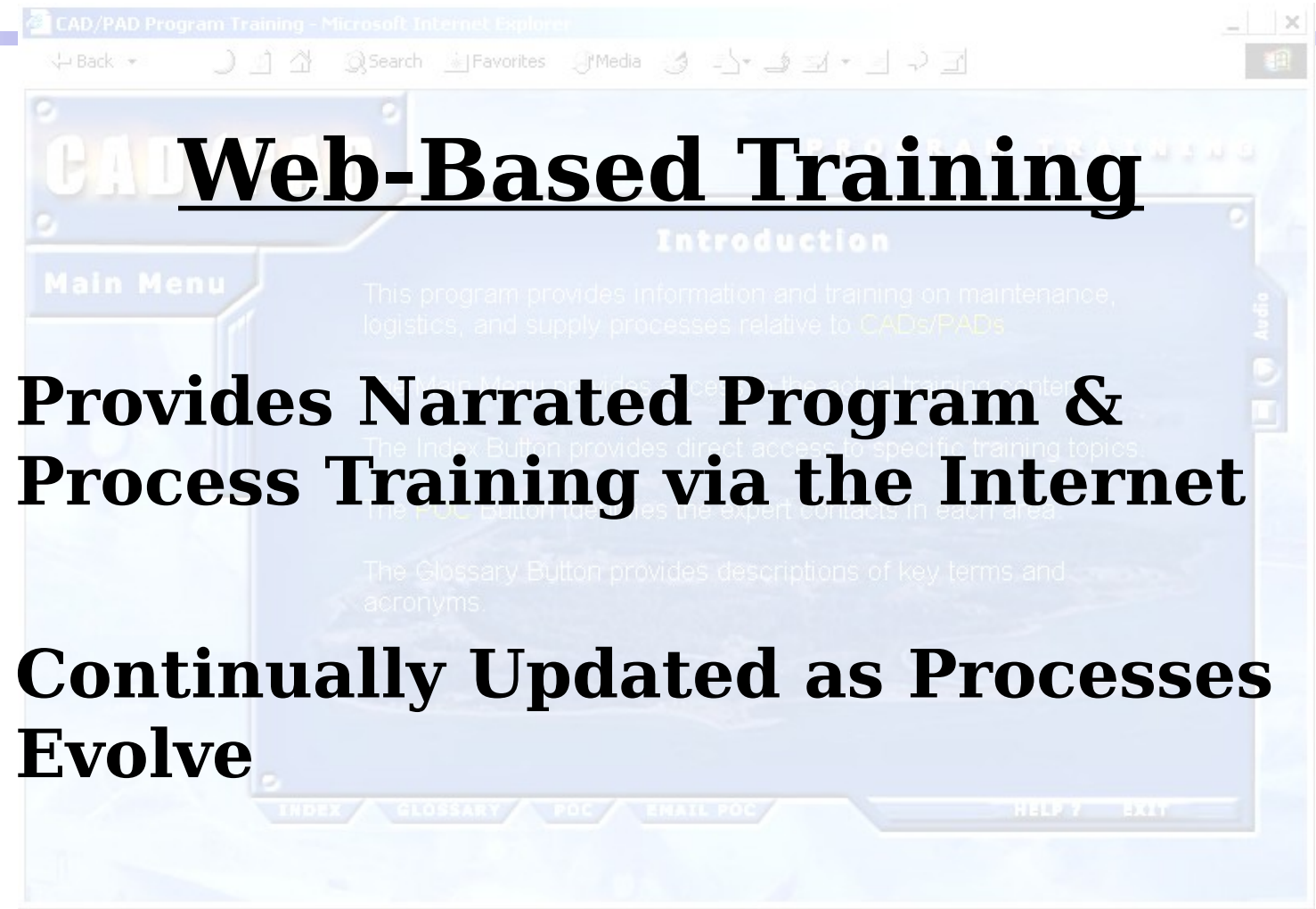
- **Component of NAVAIR's Web-Based EI System (DRWEB)**
- **Automates Discrepancy Reporting (DR) Processing, Asset Recall, & EI Close Out**
- **Working to Interface with VFS to Auto-Populate Tech Data Into DRWEB**
- **Will Interface Directly With VFS for Data Exchange**

VIRTUAL FLEET SUPPORT

Disposition Instruction Module

- Provides Fleet Process for Requesting Disposition Instructions From the Joint CAD/PAD Designated Disposal Authority (DDA) for "Non-reporters" and "Non-standard Explosives"
- Provides Repository for Data on all CAD/PAD Disposals to aid in Compliance with DoD's Military Munitions

WEB-BASED TRAINING



Web-Based Training

- **Provides Narrated Program & Process Training via the Internet**
- **Continually Updated as Processes Evolve**

OVERLAPPING PROCESSES

Aircraft Armament Equipment (AAE)

- ***User Registration***
- ***Aircraft Tracking***
- ***Equipment Tracking***
- **Logbook Management**
- **Discrepancy Reporting***
- ***User Training***

Italics indicates potential duplication

Common Processes

(Commissioning Study of VFS/AAE Systems/Approaches)

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OVERLAPPING PROCESSES

Aviation Ordnance

- **User Registration**
- **Data Management and Publication**
- **Service Life Determination**
- **Requisitioning *and Fleet Return, Including In-transit****
- **Load Planning**

**** Indicates Pending Development***

Common Processes, Different Approaches

OVERLAPPING PROCESSES

Aviation Ordnance

- **Lot Tracking***
- **Receipt and Issue Management (CAIMS/ROLMS)**
- **NAR Implementation***
- **Procurement and Maintenance Budgeting**
- **Disposition**
- **Discrepancy Reporting****
- ***User Training***

Italics indicates potential duplication

***Pending Development in VFS Stockpile Module**

****Common Process**

OVERLAPPING PROCESSES

Potential Initiatives

- Elimination of Marking Variable Data on Packaging
- Automated MDD (Maintenance Due Date Equals Also Service Life Expiration)
- Automated Stockpile Lot Tracking
- Automated NAR Implementation
- Automated Fleet Returns Process

CAD/PAD
Accident / Incident
Safety Improvement Initiative

Lee Manis
Equipment Specialist
April 29 2004

DOD Launching Campaign To Reduce Accidents By Half

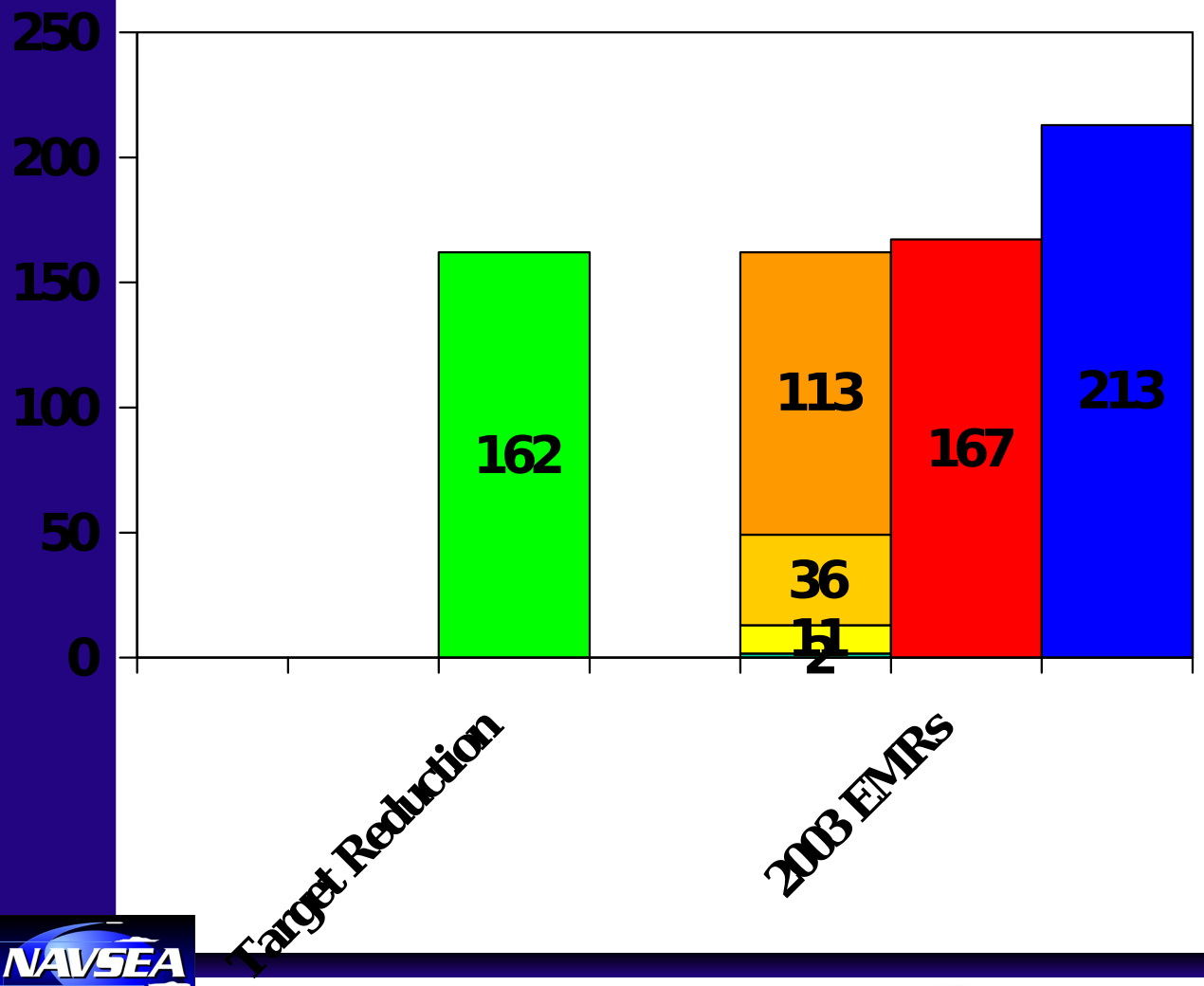
In a May 19 memo to top officials, including the undersecretaries of defense and the secretaries of the Air Force, Army and Navy, Rumsfeld said cutting the number and rate of DOD mishaps in half is an "achievable" goal and "will directly increase our operational readiness."

Rumsfeld suggests in his memo that DOD safety problems actually are getting worse.

"Our accident rates have increased recently, and we need to turn this situation around," he said.

The new effort is expected to address not only aircraft accidents but also such mishaps as ground vehicle crashes, unintended detonations of munitions, and fires aboard ships.

EXPLOSIVE MISHAP REPORTS



Explosive Mishap cost to Fleet

(SAMPLE)

- F/A-18 Fire Bottle Cad
  MF73,MF74,MF75
- 26 Inadvertent Actuations
- Average loss of aircraft 36 hours
- flight hour loss 936 annually
- Total cost of hardware repairs annually $104,000.00
  (estimated)
- Loss of 1.56 F/A-18 annually Fleet wide to Inadvertent Actuations

Explosive Mishap cost to Fleet

(SAMPLE)

- MW19 Seawars CAD
- 10 Inadvertent Actuations
- Average loss of aircraft is 24 hours
- flight hour loss 240 annually
- Total cost of hardware repairs annually $5000.00 **(estimated)**
- Loss of 0.48 aircraft annually Fleet wide to Inadvertent Actuations

Explosive Mishap cost to Fleet

(SAMPLE)

- MT69 EA6B fire bottle CAD
- 12 Inadvertent Actuations
- Average loss of aircraft 36 hours
- flight hour loss of 432 hours annually
- Total cost of hardware repairs annually $25,080.00 (estimated)
- Loss of 0.66 EA6B aircraft annually Fleet wide to Inadvertent actuations

CAD/PAD Approach To Explosive Mishap Reduction

- Provide Proactive Investigation of EMR
- Provide updated training to war fighter
- Provide current mishap trend data to war fighter

Provide Proactive Investigation of Explosive Mishaps

- EMR Investigation should include mutable parties in team format (TYCOM, WING,CAG,Peer units)
- EMR Final report should always include recommendations for prevention from FST and team
- Investigation should carry authority from chain of command for compliance
- Present system should be compared to industry for effectiveness (FAA, airlines, safety community).

Provide Updated Training to War Fighter

- War Fighter should be provided ongoing device specific training
- Training should be disseminated using widely available multi media tools (Web based,CD Rom)
- Training should reflect all lessons learned Fleet wide.

Provide Explosive Mishap trend data.

- War Fighter should be provided access to all final EMRs as a tool of lessons learned from world wide users of a device.
- Location of EMRs data base should be in an easily accessible location.
- Data should be device specifically segregated
- Embedded history should be disseminated in NAVAIR 11-100-1.1

Payoff to Fleet

- Reduced documentation requirements
- Reduced Maintenance cost
- Increased mission capabilities
- Increased manpower utilization
- Increased safety compliance
- Compliance with DOD campaign


NAV AIR